Winning Chassis Set-Ups for Any Type of Race Car:

Engineering Precision with Creative Racing Products

The ability to extract maximum performance from a race car often comes down to one critical factor: **setup precision**. During a recent episode of the *Race Industry Now* webinar series hosted by EPARTRADE, engineers and race industry professionals gathered to explore the technologies and processes behind modern chassis setup tools. The webinar, titled **"Winning Chassis Set-Ups for Any Type of Race Car,"** featured **Brett Barker**, Co-Founder and Chief Engineer of Creative Racing Products, and **Charles Lewandoski**, Founder of ChaLew Performance Products, with hosting duties handled by **Brad Gillie of SiriusXM's Late Shift (Ch. 90)**.

The discussion focused on how advanced measurement tools, wireless sensor systems, and integrated setup platforms are transforming how teams approach chassis tuning across multiple racing disciplines—from asphalt and dirt oval racing to road racing, drifting, and drag racing.

The Foundation of Performance: Accurate Setup Data

Brett Barker opened the session by highlighting the core philosophy behind Creative Racing Products: **make chassis setup easier, more accurate, and more repeatable**.

Modern race cars are influenced by thousands of variables—from suspension geometry and tire load distribution to ride height changes measured in thousandths of an inch. Barker explained that without reliable data, teams often rely on approximations or shortcuts that compromise performance.

To address this challenge, Creative Racing Products developed an integrated system of tools designed to give racers **real-time, high-accuracy measurements** of critical chassis parameters.

Among the key technologies presented:

- Wireless ride height sensors
- Load sticks for suspension load measurement
- Precision scale systems

- Integrated setup software platforms

These tools are designed to work together within a single ecosystem, allowing teams to view ride height, weight distribution, and load data simultaneously on one interface.

Wireless Ride Height Measurement: Eliminating Traditional Limitations

One of the first problems Barker and his team set out to solve was **the difficulty of measuring ride height consistently**.

Traditional methods often require crawling beneath the car with tape measures—an approach that is time-consuming, uncomfortable, and prone to error.

Creative Racing Products developed a **wireless ride height sensor system** capable of measuring distances with remarkable precision. The sensors can measure heights up to 24 inches and are accurate within a few thousandths of an inch, with typical calibration results around **0.003 inches**.

Each sensor attaches magnetically to the chassis and communicates wirelessly with the system's central application, providing live measurements for each corner of the car.

For teams working under tight time constraints at the track, this allows rapid adjustments while monitoring ride height changes in real time.

Load Sticks: Precision Suspension Load Measurement

Another major product introduced during the webinar was Creative Racing Products' **wireless load stick system**, designed to measure suspension loads with extreme precision.

Key engineering characteristics include:

- **Accuracy within roughly 0.2 pounds**
- **Multi-point calibration for reliability**
- **Rechargeable battery system**
- **Wireless integration with setup software**

Each load stick is laser-engraved for its designated corner location and custom-manufactured daily to match specific suspension dimensions.

Barker explained that the ability to measure load accurately at the suspension pickup points provides teams with deeper insight into how weight is distributed through the chassis during setup procedures.

Advanced Racing Scales: Rethinking Load Measurement

Perhaps the most technically innovative component discussed was Creative Racing Products' **dual-load-cell scale system**, designed to address limitations found in traditional single-load-cell scale pads.

Conventional scales can introduce measurement errors when tire placement shifts slightly across the pad surface. Creative Racing Products addressed this by implementing a **split-top plate design with dual load cells**, allowing the system to measure weight distribution across the tire footprint more accurately.

Key features include:

- Dual independent load cells per pad
- Reduced corner-tip measurement error
- Independent load cell calibration
- Accuracy within approximately **0.3–0.4 pounds**

The system also provides **independent weight readings across the tire contact patch**, enabling teams to evaluate factors such as camber effects and tire patch distribution during pull-down testing.

For top-tier teams seeking even more detail, Creative Racing Products also offers a **three-load-cell configuration**, delivering weight distribution data across the inner, center, and outer portions of the tire.

A Fully Integrated Setup Ecosystem

A major advantage of the Creative Racing Products platform is that **all tools operate within a unified wireless ecosystem**.

Using the company's mobile software platform, teams can simultaneously view:

- Ride height data
- Corner weights

- Suspension loads
- Scale readings

Additional devices can be added later simply by pairing them with the system.

This modular approach allows race teams to start with a single tool—such as ride height sensors—and expand the system over time as their setup program evolves.

Real-World Racing Roots

The origin of Creative Racing Products lies in the racing experience of Barker and his father, who ran a modified race car while operating an engineering product development company.

The idea for the company's first product came from a simple frustration: measuring ride height beneath a race car was physically demanding and inefficient.

Rather than accepting the limitation, Barker applied his engineering background to develop a new solution.

The company ultimately had to design its own **custom Bluetooth communication protocol** to achieve reliable wireless communication inside steel race shops and garages—a critical step that allowed the entire ecosystem of tools to function seamlessly.

Distribution and Customer Support

During the webinar, **Charles Lewandoski of ChaLew Performance Products** explained how his company helps teams select and implement the appropriate setup systems.

Based in Mooresville, North Carolina—the heart of the NASCAR engineering ecosystem—ChaLew Performance Products supplies premium race components to teams worldwide.

Lewandoski emphasized that the Creative Racing Products tools stand out because they deliver advanced engineering capability without excessive cost.

Teams can purchase complete packages or build their systems gradually depending on budget and technical needs.

Applications Across Multiple Racing Disciplines

One of the most striking aspects of the technology is its versatility.

According to Barker, Creative Racing Products equipment is now used in a wide range of motorsport disciplines, including:

- NASCAR-style stock cars
- Modified circle track cars
- Road racing platforms
- Legend cars
- Drift cars
- International racing programs

Even professional Formula Drift teams have adopted the tools to accelerate setup workflows and manage multiple vehicles during competition events.

The Future of Chassis Setup Technology

Looking ahead, Barker revealed that Creative Racing Products is continuing to expand its integrated setup ecosystem. Upcoming developments include:

- Automated spring testing systems (“spring smashers”)
- Portable pull-down systems
- Real-time on-track ride height telemetry

These innovations aim to further simplify the complex process of race car setup while giving engineers deeper insight into chassis behavior.

Engineering the Next Generation of Race Car Setup

As motorsports continue to evolve, the margin between winning and losing becomes increasingly small.

The technologies discussed during this EPARTRADE *Race Industry Now* webinar illustrate how advanced measurement systems and integrated data tools are reshaping chassis setup practices across the racing industry.

By combining **engineering precision, wireless data acquisition, and modular system design**, Creative Racing Products is helping race teams move beyond traditional guesswork toward a more scientific approach to vehicle performance.

For engineers and racers alike, the message is clear: **in modern motorsports, precision setup data is no longer optional—it's essential.**

For more information, **watch the full webinar here.**